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Letter to the Editor

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A case involving penile necrosis after circumcision

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DEAR SIR

Circumcision, like any surgical procedure, can lead to complications if not executed with proper technique [1]. We recently managed a 25-day-old neonate who suffered penile necrosis following circumcision performed by a general practitioner. The referring practitioner informed us about using a monopolar device for hemostasis. Upon the patient's admission to our facility, urgent intervention was required to preserve urinary continence and treat the infected area (Fig. 1A). Debridement of the affected tissue was performed to remove the necrotic area, followed by IV antibiotics and daily dressing changes. To maintain urinary continence, urethral catheterization was conducted, with the catheter left in place for two weeks. After the infection subsided, surgical intervention was performed. This included removing the necrotic tissue and urethral remnants and mobilizing the remaining shaft (Fig. 1B&C). Flaps of surrounding skin were raised to cover the shaft (Fig. 1D). The patient remained catheterized for a week post-procedure.

The use of monopolar devices in circumcision, especially in neonates, poses inherent risks due to the presence of end arteries in penile tissue [2]. These arteries lack collateral circulation, making them highly susceptible to thermal injury from monopolar devices. These devices use high-frequency electrical current from an active electrode to a dispersive electrode elsewhere in the body, generating heat that coagulates blood vessels and achieves hemostasis [3]. The necrosis of penile tissue in this case serves as a stark reminder of the consequences of neglecting this principle.

It is crucial to underscore the superiority of bipolar devices for hemostasis in neonatal circumcision. Unlike monopolar devices, bipolar instruments utilize two closely spaced electrodes to deliver localized electrical current, thereby minimizing the risk of thermal injury to surrounding tissues. By confining the electrical current to the area between the bipolar electrodes, the risk of damage to end arteries and adjacent structures is significantly reduced, ensuring safer outcomes for neonates [4].

Figure 1: A) Sloughed and necrotic phallus. B) Post debridement. Corpus Spongiosum remnant can be visualized. C) Length of phallus gained after phalloplasty. D) Skin flap coverage of remaining phallus. The raw area has been covered with skin and the urethral orifice is stitched with surrounding corpus spongiosum to keep it patent.

In light of this incident, We urge all practitioners performing neonatal circumcisions to exercise extreme caution and strictly adhere to established surgical principles. The use of bipolar devices not only reduces the risk of thermal injury but also enhances overall outcomes and patient safety. Furthermore, medical institutions and regulatory bodies must ensure adequate training and oversight for surgical procedures. Promoting education, awareness, and adherence to best practices is essential to prevent similar incidents and uphold the

highest standards of patient care. This incident highlights the critical importance of adhering to proper surgical techniques, especially in delicate procedures like neonatal circumcision.

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